

AMENDMENT (under PCT Article 34)

To: Examiner of the Patent Office

1. Identification of the International Application  
PCT/JP03/16211

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4. Item to be Amended: Claims

## 5. **Contents of Amendment**

(1) Claim 1 on page 13 has been cancelled.

(2) Claim 2 on page 13 has been cancelled.

(3) Claim 3 on page 14 has been amended to recite that a cutting portion structure of a core drill including a cylindrical core body; and cutting blades, the cutting portion structure comprising: an opening end portion formed on the cylindrical core body, the opening end portion being rounded as viewed from a direction substantially perpendicular to a cross-section in a radial direction of the core body, wherein the cutting blades are formed at the opening end portion of the cylindrical core body and arranged in a circumferential direction of the core body to have gaps between the cutting blades, and the cutting blades include diamond grains bound on the opening end portion from an inner peripheral side of the core body to an outer peripheral side of the core body, wherein the opening end portion is partially expanded in the radial direction to have a thickness larger than a thickness of a base end side portion of the core body which is closer to a base end of the core body than the opening end portion is, and the expanded portion of the opening end portion is entirely rounded as viewed from the direction substantially perpendicular to the cross-section in the radial direction, the cutting portion structure further comprising: a step portion formed between the opening end portion and the base end side portion of the core body to form a right angle between the step portion and the base end side portion.

(4) Claim 4 on page 14 has been amended to depend from amended claim 3.

- (5) Claim 6 on page 14 has been amended to depend from claim 4 or 5.

### Claims

1. A cutting portion structure of a core drill including a cylindrical core body; and cutting blades, the cutting portion structure comprising:  
an opening end portion formed on the cylindrical core body, the opening end portion being rounded as viewed from a direction substantially perpendicular to a cross-section in a radial direction of the core body

wherein the cutting blades are formed at the opening end portion of the cylindrical core body and arranged in a circumferential direction of the core body to have gaps between the cutting blades, and

the cutting blades include diamond grains bound on the opening end portion from an inner peripheral side of the core body to an outer peripheral side of the core body.

2. The cutting portion structure of a core drill according to claim 1, wherein the opening end portion is partially expanded in the radial direction to have a thickness larger than a thickness of a base end side portion of the core body which is closer to a base end of the core body than the opening end portion is, and the expanded portion of the opening end portion is entirely rounded as viewed from the direction substantially perpendicular to the cross-section in the radial direction.

3. The cutting portion structure of a core drill according to claim 2, further comprising:

a step portion formed between the opening end portion and the base

end side portion of the core body.

4. The cutting portion structure according to any one of claims 1 to 3, further comprising:

a gallet formed on a portion of the core body which is located forward relative to the cutting blade in a rotational direction of the drill bit such that the gallet is located adjacent the cutting blade to allow chips resulting from cutting to be discharged therethrough.

5. The cutting portion structure of a core drill according to claim 4, wherein the gallet is structured such that a bottom portion thereof is located radially inward relative to an outer peripheral face of the core body, and an upper end portion of the gallet forms a face continuous with a base end side portion of the core body which is located above the gallet.

6. The cutting portion structure according to any one of claims 1 to 5, further comprising:

a protruding portion formed in a spiral shape on an outer peripheral face of the base end side portion of the core body which is located above the gallet to allow chips generated by the cutting blade to be discharged toward the base end.